DRAPER. (F. W.)

From Seventh Report of the Massachusetts State Board of Health.

REPORT

ON THE

REGISTRATION OF PREVALENT DISEASES.

By F. W. DRAPER, M. D.
Of Boston.

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The desirability of a trustworthy method for the registration of prevalent diseases is undisputed. Sanitarians have repeatedly expressed the want, but have failed hitherto to realize its fulfilment. They know how much greater would be their power to protect the public health, if data of the local development and progress of disease were promptly afforded to them. They recognize the fact that the utility of such a registration is amply illustrated in the control which boards of health exercise during invasions of small-pox prompt measures of prevention by isolation being thereby made possible for the defence of the entire community. In a still broader sense, they see the great advantage which would result from the opportunity to study the rise and fall of epidemics, and the development of diseases whose cause lies in local and preventable conditions.

Hitherto health authorities have relied on the registration of deaths as affording a basis for their active operations in behalf of the public welfare, as well as for generalizations in sanitary science. A persistently high rate of mortality is an indication that something is wrong in the sanitary condition of the community reporting it; it is a signal that so far as that region is concerned, influences are at work which demand speedy investigation and, if it be possible, prompt removal. Therefore the registration of mortality has always been acknowledged as an invaluable adjuvant to sanitary administration.

But it is obvious that the death-rate does not represent the actual state of the public health, the real amount of sickness, or its real character at any given time in any community.

An entire hamlet may be smitten by an epidemic which makes no impression on the bills of mortality. The schools of a township may be forced to take an unseasonable vacation by a general invasion of whooping-cough, which may cause a comparatively small number of deaths. Mild scarlatina, or diphtheria, or even small-pox may sweep through a village and be the occasion of only a few funerals. On the other hand, an exceptionally severe outbreak of infectious disease may be attended with a fatality out of all proportion to the number sick, and thus become the source of erroneous inferences. So that it seems eminently desirable that a registration of diseases should in some way be put into operation, not to take the place of mortality-registration, but to supplement it.

To the public, as well as to the health-authorities, an accurate knowledge of the prevailing diseases is of evident value. An official bulletin, issued at stated intervals, declaring what acute diseases are present in a specified section, and in what part of that section they are most rife, has a double usefulness: it warns well people to avoid the risk of exposure in any specially infected locality, while it prevents the ill effect of sensational items, which are ever on the alert to startle newspaper readers by their alarming assertion that this or that dreaded and dangerous malady is "raging" in some community which is only measurably affected, or, it may be, is wholly exempt. If it were possible to publish daily records of the relative prevalence of the more important acute diseases, and of their comparative gravity, from returns gathered and compiled upon authority, the people might escape the apprehension and the alarm fostered by paragraphs for which nobody is responsible.

The analogy between such a scheme and the already established system of weather-reports will at once occur. The eminent usefulness of the work done by the Signal Service cannot be gainsaid. Its value to commerce, to agriculture, and to the conduct of ordinary affairs, has been fully tested. The "weather probabilities" have become an important feature of the daily news, and thousands of people are accustomed to shape their plans according to the prognostications of the chief of the bureau. Already we have intimations of

a greatly extended operation of the system of weather-reports begun so successfully in this country; the time will presently come, when an international bulletin of meteorological observations, taken simultaneously at many stations in the northern hemisphere, will furnish special means for the development of this department of scientific study.

In like manner, the prevalence of endemic and epidemic diseases may be registered. Large areas of territory may be included in the field of observation, and bulletins issued by a central authority may give timely warning of the rise and spread of zymotic affections. Just as the "cautionary signal" now tells the mariner or the traveller that a storm is coming, so in the future will the official word of the registrar tell the public of the existence of infectious and contagious diseases, their gravity, and their progress. Indeed, it is not too much to predict that "probabilities" may yet be cast with some degree of precision, as we advance in our knowledge concerning epidemics. The manifold directions in which such a system may prove useful in gathering facts concerning epidemiology, in staying groundless alarm, in pointing out localities to be avoided, in indicating specially threatened places, need hardly be mentioned farther.

Yet it must be confessed, that there are many and serious difficulties *at present* in the way of a practical realization of such a plan. Some of these obstacles are inevitable; others would disappear as time introduced more perfect methods of registration, and diminished the friction of new machinery. It is proper to allude briefly to some of these hindrances.

It is obvious that the registrar of prevalent diseases is obliged to depend for his working material upon the medical profession; his information must come from physicians upon whose punctuality and uniform fidelity the success of the entire business relies. The law is not his ally in this matter, as in the case of the kindred registration of mortality; the labor attending the gathering of the preliminary facts must, therefore, be entirely voluntary and public-spirited. But it is impossible that the entire medical profession, including all persons styling themselves "doctors," could be enrolled in the service; and on many accounts it is well that it is so, because, as is amply illustrated in mortality registration, the

certificates furnished by the numerous company of pretenders, to whose ministrations a pretty large minority of the people submit themselves in times of sickness, are of doubtful value, and do not supply reliable data for sound reasoning. A purely ideal system for registering prevalent sickness would involve the recording of every case of acute disease, whether it were under the care of persons representing one or another degree of medical skill, or indeed of those without any degree at all. Such a comprehensive plan, even supposing it to be desirable, is not practicable. Reliance must therefore be placed upon a selected number of observers, who will regularly return the required facts. The registrar will aim to secure the coöperation of the best physicians, those at once the most accomplished and the most busily engaged in their art. He will be fortunate if those of his first choice do not decline his overtures, through reluctance to accept another draft upon their professional charity and good-nature. Any scheme of this sort will be strong, and its results valid in proportion to the trustworthiness of those who are its practical supporters; success depends more on the character of the observers, than upon their number. The first difficulty, therefore, in the way of this registration, is the selection of men best fitted to perform the primary service; the second and greater difficulty is to enlist these volunteers in the corps of observation.

But supposing the corps to be sufficiently and satisfactorily filled, the physicians composing it representing the best possible quality as regards medical intelligence, extent of observation, fidelity, the next obstacle l es in the fact that the matters to be reported upon are not of an absolute character. The meteorological observer is sure of his weather record; his thermometer, and barometer, and anemometer indicate to him positive conditions, about which there can be no mistake, the proper precaution being taken, of course, concerning the accuracy of the instruments. But the clinical observer deals with matters far more subtle and difficult; the reliability of his record of observations depends upon his own acuteness and judgment. He reports the presence or absence of diseases whose diagnosis is not always easy. His opinion of the nature or gravity of any case or series of cases may be quite

different from that of his neighbor. What is diphtheria to one observer, is croup or simple sore throat to another; what is febricula to one, is typhoid fever to another; what is cholera infantum to one, is infantile diarrhœa to another; what is influenza to one, is bronchitis or severe catarrh to another. For this diversity there is no radical remedy. It is the source of a considerable margin of error in the registration of mortality, affecting the causes of death; it is the possible origin of a still wider range of uncertainty in the results of any scheme for registering diseases which do not afford, in their fatal termination, an additional indication for diagnosis. Our chief safe-guard is again to be found in the known skill and reputation of the observers.

The liberality of the State Board of Health permitted during the year 1875 a plan for registering prevalent diseases in Massachusetts to be subjected to a practical test. The plan was not a pretentious one: it was offered as an initiatory experiment in a field of sanitary statistics hitherto unproductive. The purpose was to break the ground, in the hope that other workers might be tempted to carry forward and perfect a project believed to contain undeveloped elements of value and importance to the public welfare. It is the main object of this paper to report what has been done, the methods, and the results.

For the purposes of the plan devised, the State of Massachusetts was divided into seven sections of unequal size, but of distinctive topographical characters. The hill country of Berkshire formed one section. The second region comprised the counties of Franklin, Hampshire, and Hampden, the "valley" section, traversed and drained by the Connecticut River. The county of Worcester constituted the third or "midland" section. The "north-eastern" section included all of Essex County, and all of Middlesex County except eleven towns and cities embraced in the fifth section. This latter, the "metropolitan," contained Boston and its suburbs, the northern boundary being the valley of the Mystic River, and the southern the Neponset River. In this section were included, besides the city proper, with its recently acquired outlying territory, the following: Hyde Park, Brookline, Newton, Watertown, Belmont, Cambridge, Arlington, Som-

erville, Melrose, Medford, Malden, Everett, Winthrop, and Chelsea. The "south-eastern" section, the largest in area, consisted of the counties of Norfolk (the towns of Hyde Park and Brookline excepted), Bristol, Plymouth, and Barnstable. The islands of Martha's Vineyard and Nantucket constituted the seventh, or "island" section. These several territorial divisions were made without regard to their extent, or to the distribution of their population, but solely with reference to their general characters, as regards situation and surface.

The field of observation having thus been divided, the physicians were selected in each district to perform the part of observers. The principle of the choice has been intimated. The aim was to secure the coöperation of regularly educated, intelligent medical men, whose field of practice was so distributed as to enable them in the aggregate to give a comprehensive and accurate weekly conspectus of the diseases prevalent in the entire State. In cities whose sick poor were attended to by means of an organized gratuitous dispensary service, the physicians of the visiting staff were regarded as particularly desirable reporters, for the reason that the patients under daily observation were so numerous, and of such a character, as to have considerable influence in determining the relative prevalence of acute diseases in their localities.

The project was introduced to the attention of the profession in November, 1874, the following circular being mailed to one hundred and sixty-eight regular physicians :—

COMMONWEALTH OF MASSACHUSETTS.

STATE BOARD OF HEALTH,
BOSTON, Nov. 1, 1874.

DEAR SIR :—The State Board of Health is very desirous of getting weekly information of the diseases prevalent in all parts of Massachusetts. The object is certainly one of great importance,—positive knowledge of the health of the people, as well as of the diseases which, at any time and place, are present, or which threaten to extend as epidemics.

In order, however, to attain this end, the board will need the coöperation of a large and select number of physicians, in full general practice, in various parts of the State. We therefore take the liberty of asking whether you will consent to be one of this

number,—to report weekly, during the next year (1875), the diseases prevalent in your vicinity. The inclosed sample postal card will indicate the proposed method; it will be observed that an endeavor has been made to reduce to the minimum the expenditure of time and trouble incident to the service asked of busy medical men.

The board has appointed Dr. F. W. Draper, of Boston, to be the registrar of this new Bureau of Health Correspondence. He will compile from the returns received a concise weekly bulletin of prevalent diseases, to be reported to the secretary of the board, and published, with appropriate comments, for the information of the people. At the end of the year, a summary of the accumulated observations will be prepared for publication in the annual report of the board.

If the board is successful in securing the coöperation of physicians in the accomplishment of this plan, the practical results will be of essential value, not only to the State at large, but to private individuals. To medical men, in particular, such a weekly synopsis of prevalent diseases would be possessed of obvious interest. It is not out of place to remark, also, that the present scheme is the first practical attempt in any part of the world to make a systematic weekly registration of diseases. It is hoped that you will consent to assist the board in executing a purpose which is capable of being developed to very useful ends. If you will please to signify your willingness to undertake the service alluded to, the proper blanks will be forwarded.

We have the honor to be, very respectfully, yours,

Henry I. Bowditch,
David L. Webster,
J. C. Hoadley,
Richard Frothingham,
T. B. Newhall,
R. T. Davis,
Chas. F. Folsom,
Members of the State Board of Health.

To this preliminary request for coöperation, one hundred and fifteen physicians responded affirmatively. In March, 1875, this number was increased by the enlistment of the aid of seventy-nine additional physicians. These one hundred and ninety-four medical men were supplied from time to time with postal-card blanks, to be filled and forwarded to the

registrar. This blank form, of which a copy is here given, was intended to procure the maximum of information with the least amount of machinery and detail.

F. Report of Diseases prevalent during the Week ending Saturday, ... 1875.

☞ Please erase the names of Diseases NOT prevalent, and indicate the relative gravity of PREVALENT diseases by a cross (×) under "Mild" or "Severe," as the case may be; basing the Report, not alone on the actual cases in the reporter's practice, but also on a general knowledge concerning his vicinity. Please mail the card as soon after FRIDAY of EACH WEEK as is convenient.

	Mild.	*Severe.*
Bronchitis		
Cholera Infantum .		
Cholera Morbus . .		
Croup (*Membraneous*) .		
Diphtheria		
Diarrhœa		
Dysentery		
Influenza		
Measles		
Pneumonia		
Rheumatism		
Scarlatina		
Small-pox		
Typhoid Fever . .		
Whooping-cough .		
.....		
.....		
.....		

Remarks. .....

.....

.....

..... *M. D.*

If more particulars had been called for, necessitating an additional outlay of time and thought on the part of the active practitioner, much less would have been gained in the end. The form has served admirably throughout the year. Future experience may indicate the time when more elaborate data can be asked for and obtained; the point has not yet been reached when a state commission can draw from an overworked profession long-continued gratuitous service, unless that service

be of the simplest nature, and to secure most useful ends. It is a pleasure in this connection to testify to the faithfulness and uniformity with which the physicians have discharged their promise to coöperate in this work. It was to be expected that some would fail and drop out of the ranks before the year was ended; but to the large majority, the registrar feels indebted for well-sustained assistance. Without this aid, the plan would have come to naught; to it the experiment owes nearly the whole of its success. If one would seek for some sign that the registration of diseases is a desideratum, and that the present method has in it some quality of favor, he might find such evidence in this ready response and long-sustained support on the part of many of the best representative physicians of the State.

The reports returned at the end of each week were assorted by districts, the initial letter at the left upper corner of each card being designed to facilitate that work. The diseases reported by each section were then compiled from the cards, and a percentage computed between the number reporting each disease and the whole number reporting for that week for that district; thus, if from the midland section, in a given week, twenty-five (25) cards were received, of which eighteen (18) returned pneumonia as prevalent, the percentage for pneumonia for that week and that section would be seventy-two (72). Inasmuch as the number reporting from week to week necessarily varied somewhat, this computation of the percentage would appear to show better than any other way the relative changes in the prevalence of diseases. All the sections having been analyzed in this way, the summary for the State at large was obtained in a similar manner by aggregating the returns. The results of the analysis for each section and for the State were transferred to charts, which presented to the eye a graphic picture of the prevalence from week to week of acute diseases, the regular curves giving a satisfactory notion of their development and decline.

One feature of the work, and that by which the public has known of its progress, has been the weekly bulletins. From the cards, and from the charts, was readily made a brief summary, setting forth the diseases prevalent in the various parts of the State, with a comparative record giving the increase or

decline of the more dreaded affections. This weekly bulletin was published simultaneously on Thursday mornings throughout the year in the "Boston Medical and Surgical Journal," and in the Boston "Morning Journal." A single specimen will suffice to show the general character of these announcements:—

"The following is a bulletin of the diseases prevalent in Massachusetts during the week ending January 16, 1875, compiled under the authority of the State Board of Health, from the returns of physicians representing all sections of the State:

"In Berkshire, pneumonia, rheumatism, bronchitis, and typhoid fever. Diphtheria and croup are less prevalent.

"In the Connecticut Valley, bronchitis, influenza, rheumatism, diphtheria, pneumonia, whooping-cough, and croup; scarlatina is less prevalent. One physician in Springfield reports meningitis.

"In the midland section, mild bronchitis, severe pneumonia, influenza, rheumatism, whooping-cough, scarlatina, and diphtheria. Erysipelas is reported as 'epidemic' in the northern part of Worcester County.

"In Middlesex and Essex counties, influenza, bronchitis, scarlatina, rheumatism, pneumonia, and whooping-cough. Measles and diphtheria are subsiding.

"In the metropolitan section (Boston and its suburbs), bronchitis, pneumonia (not fatal), rheumatism (sub-acute), measles, scarlatina, influenza, and whooping-cough. Diphtheria and tonsillitis appear to be subsiding together.

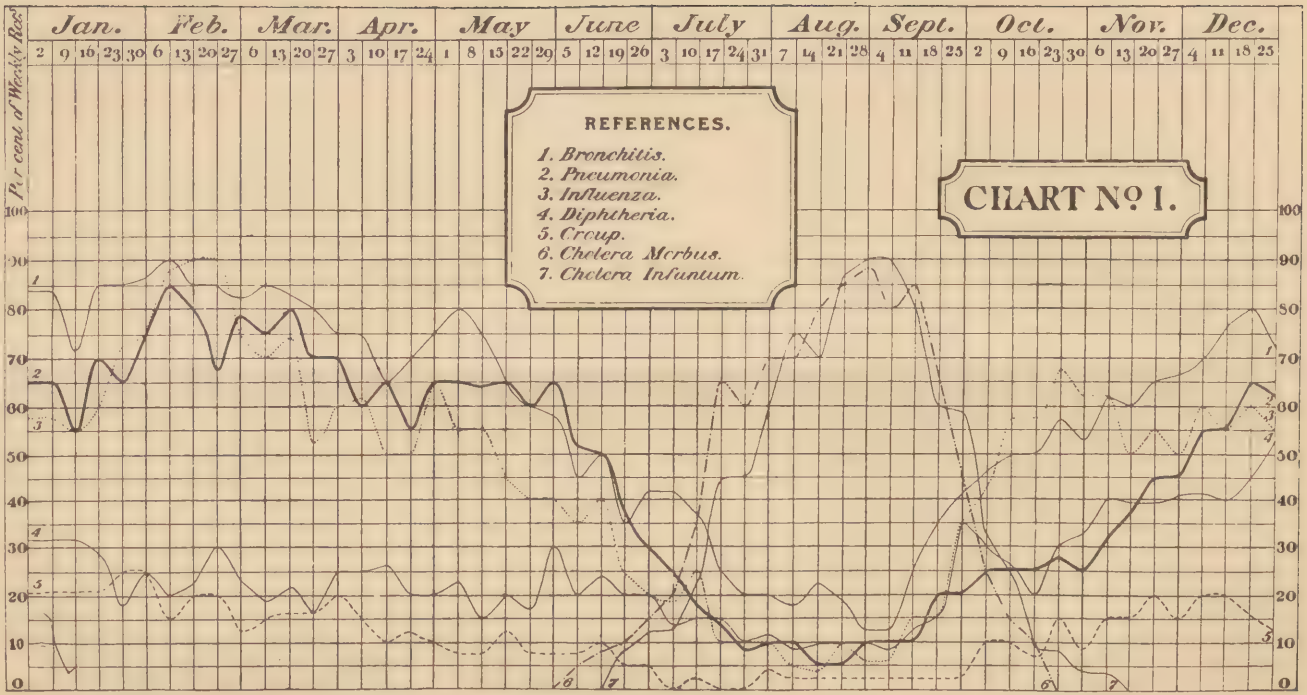
"In the south-eastern counties, mild bronchitis, influenza, pneumonia, rheumatism, whooping-cough, and croup. Scarlatina is less prevalent.

"It appears that bronchitis, pneumonia and rheumatism prevail in all parts; croup and diphtheria are most prevalent in the Connecticut Valley; scarlatina is in the midland, north-eastern and metropolitan sections, its type being generally mild; whooping-cough prevails mostly in the rural sections.

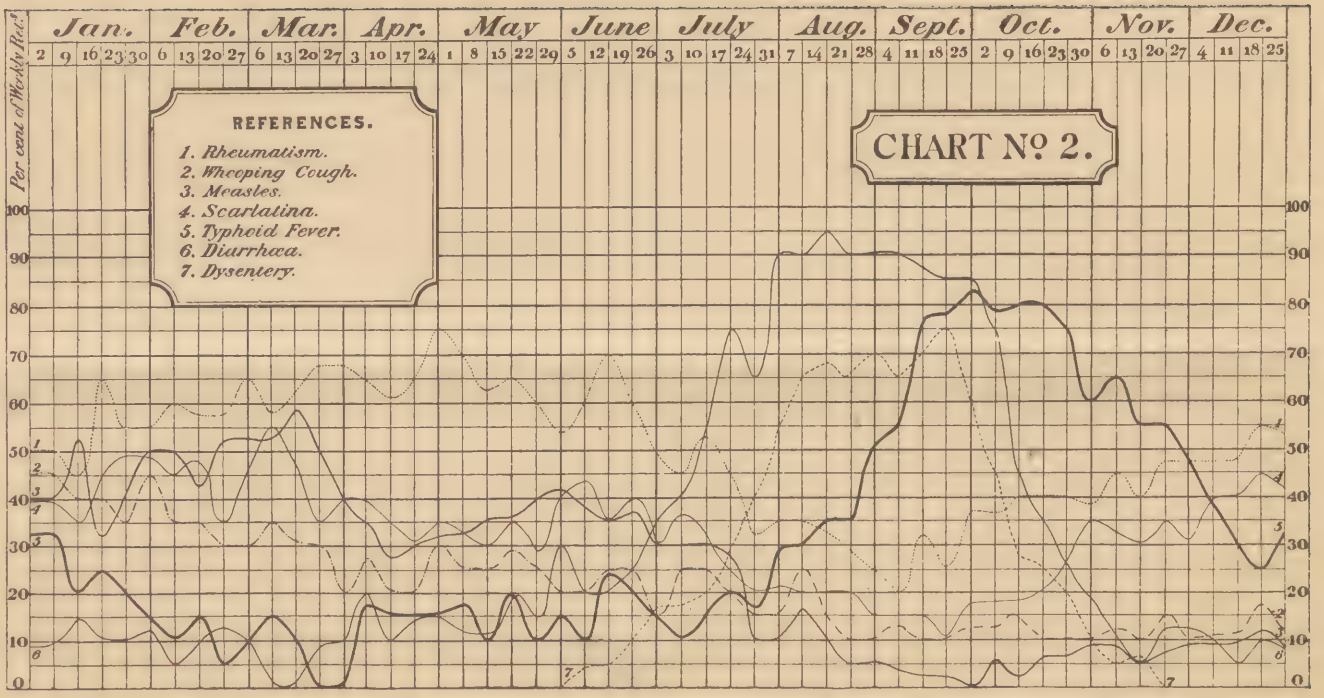
"Since last week there has been a decline in the following: Measles, diphtheria, and tonsillitis. Bronchitis, influenza, pneumonia, rheumatism, scarlatina, and erysipelas show an increased prevalence. Croup and whooping-cough are the same as at last report.

"F. W. Draper, M. D., *Registrar*."

But the weekly statements do not exhaust the account of the fruits which the scheme has made apparent; the bulle-



NOTE.—This chart is to be read as follows: "For the week ending January 2, 1875, 84 per cent. of the observers returned bronchitis as prevalent; 65 per cent. reported pneumonia; 57 per cent. reported influenza; 32 per cent. reported diphtheria, &c."


Jan.
Feb.
Mar.
Apr.
May
June
July
Aug.
Sept.
Oct.
Nov.
Dec.
2 9 16 23 30 6 13 20 27 6 13 20 27 3 10 17 24 1 8 15 22 29 5 12 19 26 3 10 17 24 31 7 14 21 28 4 11 18 25 2 9 16 23 30 6 13 20 27 4 11 18 25
Per cent of Weekly Rec.s
100 90 80 70 60 50 40 30 20 10 0
REFERENCES.
1. Rheumatism.
2. Whooping Cough.
3. Measles.
4. Scarlatina.
5. Typhoid Fever.
6. Diarrhœa.
7. Dysentery.
CHART No. 2.

tins served their purpose, and fulfilled their end, as soon as they were published; they were essentially ephemeral. It is possible to gather from the returns some results of a more permanent value. The geographical distribution of non-fatal diseases, their development considered with relation to the changes of the seasons, their more or less distinctly defined local manifestation, their relation to meteorological variations, are all capable of being demonstrated. The accompanying charts are intended to show the relative prevalence of acute diseases in the State at large during the year. It will be useful to add a few notes concerning the different sections whose charts are not introduced.

Berkshire.—During January, croup and diphtheria were quite prevalent; but they subsided as the spring advanced, and remained absent until October, when a slight accession occurred. Influenza and bronchitis were present throughout the winter and spring months, but they disappeared before the first of June, to reappear in late autumn; pneumonia and rheumatism followed a similar course. There was some typhoid fever in the first three months of the year; it disappeared in April, to return in September, and continue through the autumn. The diarrhœal diseases of summer began their invasion at about the first of August, considerably later than in some of the more populous sections; they subsided in the second week of October. Whooping-cough was never entirely absent. Measles had a very limited course during February, March, and April, and it reappeared in some parts in December. Scarlatina was present (but not prevalent) during April, May, and June. In April, the town of Lee reported the presence of small-pox.

The Valley of the Connecticut.—This section began the year with bronchitis, diphtheria, pneumonia, and rheumatism as its prevailing diseases. In February, bronchitis was joined by influenza, and both held sway till the middle of March, when they subsided together, reaching their point of least prevalence in midsummer, but returning with October, and continuing to prevail quite generally during the rest of the year. Diphtheria was at no time wholly absent; it was most prevalent in January, least prevalent in August; from the first of October to the close of the year it was again quite rife,

especially in the cities and larger towns. Pneumonia and rheumatism kept their course together from January to June, when the former subsided while the latter continued; after the first of October both diseases increased in prevalence till the end of the year. Measles had a limited course in January and February, and again in May and June, but it was never epidemic, as in some of the more eastern parts; in the late autumn, the town of South Hadley suffered from the combined presence of measles and diphtheria. Scarlatina maintained its hold throughout the year, but it was only moderately prevalent. Small-pox was reported in the spring by a few towns (Holyoke, Easthampton, Wilbraham, Huntington), but the disease did not extend. The summer diseases (diarrhœa, dysentery, cholera infantum, and cholera morbus) first appeared in the last week in June, reaching their maximum prevalence in August, and disappearing in October, diarrhœa being the first to enter and the last to leave the stage. Typhoid fever was first reported in the last week of July; it steadily advanced till the last week of September, and thenceforward it declined; in the towns along the banks of the river a remittent type of fever was observed. Cases of cerebro-spinal meningitis were reported in the earlier months of the year as present in the northern parts of this section (Shelburne, Ashfield, etc.).

Midland (Worcester County).—Bronchitis, influenza, pneumonia, and rheumatism held the highest place in the scale from January to June; measles and scarlatina came next in the list, the former reaching its highest point in February, and continuing till August, the latter having its maximum in March, but prevailing to a limited extent throughout the year. Whooping-cough was reported through January, February, and March. Typhoid began in the last week of July, and was most abundant in October; it held the highest place in the list in that month. Diarrhœa led the van of the summer maladies, beginning in June, and followed a fortnight later by dysentery, cholera morbus, and cholera infantum, their maximum prevalence being in August and September. In October, bronchitis and influenza reappeared coincidently with the occurrence of epizoötic catarrh. Several towns in the Blackstone Valley reported small-pox at the close of win-

ter, and in the spring. Millbury reported an unusual number of puerperal fever cases in May. "German measles" (rötheln) was frequently observed in the spring.

North-eastern.—The diseases of the respiratory organs (bronchitis, pneumonia, and influenza) held sway till June, when they subsided, to return in October, and continue to the end of the year. Measles and scarlatina were very general throughout the earlier half of the year, and the autumn witnessed their revival. "German measles" was frequently reported in the spring. Whooping-cough was prevalent during the first six months, but it disappeared in midsummer. Rheumatism kept its hold throughout the year. Diphtheria was more common during the last three months than at any other time; it was not as rife in this section as in some other parts of the State. The last week in July was the time at which the diseases of summer began; their highest point was reached in September; their disappearance occurred in the last week of October. Typhoid fever commenced in August, was most prevalent in September, and declined in October. In the spring, isolated cases of cerebro-spinal meningitis were reported as present in certain towns in Essex County. The year has not been an unhealthy one in this section; influenza, measles, and scarlatina have been the only diseases which had a prolonged or very general prevalence.

Metropolitan.—The first returns of the year indicated the prevalence of bronchitis, measles, pneumonia, rheumatism and scarlatina. These diseases kept their place at the head of the list until June. In February they were augmented by an epidemic of influenza, which continued till the middle of May. Scarlatina reached a high point in March, then subsided during the summer months, to return in October, and to become more prevalent in December than at any time during the year. Diphtheria secured a hold early in the year, declined somewhat in the spring and summer, but reappeared in September, and was quite rife from that time until the end of December. Tonsillitis was common during the first quarter. Whooping-cough prevailed to a limited extent during the first four months. The group of summer affections began to develop in the last week of June, was most rife in August, and subsided in the early part of October.

Typhoid was never absent during the year; its increase began in the middle week of August, the highest place being reached in the middle of October; it was not as prevalent here as in some of the rural sections. At the close of the year, bronchitis and pneumonia headed the list of prevalent diseases, and diphtheria and scarlatina came next in order. Rötheln prevailed quite generally in the spring, accompanying the epidemic of measles, and appearing in this section before developing elsewhere. Epidemic catarrh occurred in October, coincidently with the epizoötic disease.

South-eastern.—Bronchitis and influenza were rife from January till June. Pneumonia and whooping-cough prevailed extensively from February to April. Diphtheria was present from January to April, and again in the autumn, its maximum being in October; it was less prevalent than in most other parts of the State. Measles prevailed in March, but not at any time so extensively as in the metropolitan and north-eastern sections. Scarlatina was present during the first six months, and again in the last quarter, but not extensively. July witnessed the accession of the diarrhœal diseases, August their maximum prevalence, and October their decline. September and October were the months in which typhoid fever was the most rife. In March and April, small-pox was in Fall River, but it did not extend.

The towns upon the islands in Martha's Vineyard have been comparatively exempt from acute diseases throughout the year.

The charts of the various sections enable us to trace the wavelike progress of contagious diseases. It is made apparent that the strictly contagious affections do not assail large areas of territory coincidently, but that their invasion is progressive. Thus, measles was epidemic in Boston in January, February, and March; it was hardly mentioned in the returns from the north-eastern and the south-eastern section before March, and while it was subsiding in Boston, it was most abundant to the north and the south of that city. March, April, and May found it in the midland section, while May and June were the months in which it was most prevalent in the valley of the Connecticut.

Cerebro-spinal meningitis occurred sporadically throughout

the year in all the sections; but it did not have, at any time, or in any place, a very marked prevalence. Many of the observers noted its coincidence with bad drainage and other unsanitary conditions.

The distinction of diseases, according to their type, as mild and severe, has been observed by those making the weekly returns. It is impossible in this summary to make use of this discrimination, but in the course of the year it has been very useful in determining the relative gravity of the various affections in regard to time and place. It may be stated in a general way, that in all parts of the State, the year through, the milder forms of acute diseases have predominated.

The sensitiveness of the public health to weather-variations has been shown repeatedly by means of the weekly returns. A sudden change in temperature or in humidity, has again and again indicated its effect upon the amount and gravity of the prevailing diseases. A single instance, which many persons in Massachusetts will recall, may be cited as an example of this. The fourth week in April, the week in which the centennial celebrations at Concord and Lexington occurred, was marked by a severe cold snap after an interval of mild weather. The sickness returns for the week represented a very decided increase of acute diseases; bronchitis, influenza, rheumatism, pneumonia, whooping-cough, measles, scarlatina, and sore throat were returned as being much more prevalent. It is one of the advantages of such a system of sickness-registration that it shows at any time, and without delay, the effect of weather-changes, making a far more prompt and satisfactory exhibition of the influence of such changes upon the public health, than is possible with the mortality-table which gathers the more distant, indirect, and partial results of the same phenomena.

It is to be remarked, in conclusion, that the method of sickness-registration, tested in Massachusetts during the last year, has surpassed the expectations of many who were interested in its trial.* Experience has discovered certain defects

* When it is remembered that the State contains a population of 1,651,912 persons, living in 19 cities and 322 towns; that the average weekly number of physicians who have reported in season for the published bulletin, concerning the prevalent sickness in all these cities and towns, and of all these

in it, which, in future, might be avoided. The year's work has demonstrated the willingness of the medical profession to coöperate in such a registration, and this fact alone is a significant result of the trial. It is to be hoped that the recording of prevalent diseases may yet become as indispensable a department of the public service as is the registering of mortality at the present time. It matters little what the details of the method are, or who originates them, if only they are practicable, and their results are good. The need of such a record is undeniable; its fulfilment is a question of time. In the words of a distinguished leader in sanitary reform, "Registration of deaths represents the wrecks which strew the shore, while that of sickness would tell us of the coming storms, and enable us to trim our vessels to meet them. Till we have such a system of disease-registration, public health cannot be administered with full intelligence."*

people, has scarcely reached six scores, and that these physicians have based their returns, not on data of absolute statistical accuracy, but on their general knowledge of what was going on around them, the results of the year's experiment may seem insignificant to the critical. It is frankly admitted that the results of this single year's work are without much value in themselves, but it is insisted that the method of registration should not be judged according to the fruits of this short period of trial. Two measures at once suggest themselves for rendering the plan more effective in future, and both these measures are practicable: first, to enlarge the number of weekly medical reporters; and, secondly, in proportion as that is accomplished within the limits already alluded to, to call for statements which shall more fully satisfy the requirements of statistical correctness. When the fact is recalled, that the registration of vital statistics has required more than a quarter of a century to attain its present place, it can scarcely be expected that any registration of sickness can come full panoplied into being, or that its first fruits will be entirely satisfactory.

* Right Hon. Lyon Playfair, F. R. S. Address on Sanitary Reform. 1874.